

CLAIMS

1) A device for measuring at least the pressure of a fluid present in a chamber (16), said device comprising a sensitive element (36) placed in a housing (38) borne by a seal (10) interposed between two elements (12, 14) forming said chamber, characterized in
5 that housing (38) is open in the direction of chamber (16) and sensitive element (36) is coated with a material (67) filling said housing.

2) A measuring device as claimed in claim 1, characterized in that seal (10) comprises a pile of two extreme sheets (32, 34) between which a multiplicity of intermediate sheets (42, 48, 50, 52, 54) is arranged and housing (38) is delimited by said
10 extreme sheets and at least one intermediate sheet.

3) A measuring device as claimed in claim 2, characterized in that at least one intermediate sheet comprises a cut (40) open in the direction of chamber (16).

4) A measuring device as claimed in claim 2 or 3, characterized in that at least one intermediate sheet (48, 54) comprises electric connection means (58, 59, 60) between
15 sensitive element (36) and a measuring means.

5) A measuring device as claimed in claim 4, characterized in that electric connection means (58, 59, 60) are borne by an intermediate sheet in form of a film (48, 54) on which a printed circuit comprising at least one electric conductor (60, 63) between sensitive element (36) and the measuring means is formed.

6) A measuring means as claimed in any one of claims 2 to 5, characterized in that the sheets are electrically insulated from one another by at least one sheet in form of a plate, layer or insulating deposit (50, 52).

7) A measuring device as claimed in any one of claims 4 or 5, characterized in that
5 two of the opposite vertical faces of sensitive element (36) are connected to the electric connection means.

8) A measuring device as claimed in any one of claims 4 or 5, characterized in that two of the opposite horizontal faces of sensitive element (36) are connected to the electric connection means.

10 9) A measuring device as claimed in any one of claims 4 to 8, characterized in that sensitive element (36) is connected to the electric connection means by a conducting glue (64).

10) A measuring device as claimed in any one of claims 4 to 9, characterized in that sensitive element (36) is connected to the electric connection means by at least one
15 conducting element (66).

11) A measuring device as claimed in any one of claims 2 to 6, characterized in that the sheets are joined together by glueing.

12) A measuring device as claimed in claim 11, characterized in that glueing is carried out by interposing a glue layer (56).

20 13) A measuring device as claimed in claim 2, characterized in that at least extreme sheets (32, 34) are made of metal.

14) A measuring device as claimed in claim 2 to 6, characterized in that at least central sheet (42) of the intermediate sheets is made of metal.

15) A measuring device as claimed in claim 1, characterized in that the material (67) filling housing (38) is a resin withstanding high temperatures.

5 16) A measuring device as claimed in any one of claims 1 to 3, characterized in that face (57) of the housing in the direction of the chamber is covered with a protective element (68).

17) A measuring device as claimed in claim 16, characterized in that protective element (68) comprises a wall covering face (57) and the ends of said wall are folded
10 back over extreme sheets (32, 34) of the seal.

18) A measuring device as claimed in claim 1, characterized in that sensitive element (36) is of piezoelectric or piezoresistive type.

19) A measuring device as claimed in any one of the previous claims, characterized in that seal (10) is a cylinder head gasket arranged between cylinder head (12) and
15 engine block (14) of an internal-combustion engine.

20) A measuring device as claimed in claim 1, characterized in that the seal comprises a temperature-sensitive element.

21) Application of at least one measuring device as claimed in any one of claims 1 to 19 to engine knock measurement, detection and analysis in the combustion chamber
20 of an internal-combustion engine.

22) Application of at least one measuring device as claimed in any one of claims 1 to 19 to combustion characterization in at least one combustion chamber of an internal-combustion engine.

23) Application of at least one measuring device as claimed in any one of claims 1 to 19 to engine knock location in the combustion chamber of an internal-combustion engine.